

**RAILROAD COMMISSION OF TEXAS**

# **Reclamation Plants, Separation Facilities & Stationary Treatment Facilities**

**Grant Chambless, P.G.  
Manager, Environmental Permits & Support  
Oil & Gas Division**

# Disclaimer



- These are the highlights... This presentation is not intended to be, nor is it, a complete guide.
- There is no substitute for reading the rules yourself, or having professional consultation through the application process.



# Specific Topics to Be Covered

---



- Overview of Environmental Permits
- Basic Notification
- Reclamation Plants
- NORM
- Commercial Separation Facilities
- Stationery Treatment Facilities
- Financial Security

# Overview of Environmental Permits

---



- Environmental Permitting regulates the management methods of oil and gas waste at or near land surface.
- Includes all disposal methods other than Class II injection wells.
- Process managed by the Environmental Permitting group of the RRC.

# What Requires a Permit?

---



- Any person who transports, handles, stores, discharges, disposes or recycles oil and gas waste subject to the Railroad Commission's (RRC) jurisdiction must have authority from the RRC either directly or in conjunction with an Operator who does.
- Each permit applicant must have an active Organizational Report (P-5).
- All permit applications require an original signature.

# Recycling and Disposal Options

---



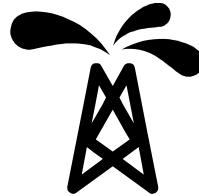
- What types of permits are issued by the RRC's Technical Permitting Section?
- Surface or Sub-surface Disposal and Recycling: What are my best option(s)?
- Are permits necessary to recycle waste streams?
- How to locate the necessary information.
  - Is it accessible online?
  - Is there application information for all permits?
  - Is there guidance for each waste application?
  - What are the rules associated with the permits.

\* <http://www.rrc.texas.gov/oil-gas/applications-and-permits/environmental-permit-types-information/>

# Applicable Rules



- Rule 3.8 – Water Protection
- Rule 3.57 – Reclamation Plants
- Rule 3.78 – Financial Security
- Chapter 4, Subchapter B – Recycling
- Chapter 4, Subchapter F - NORM



<http://www.rrc.texas.gov/oil-gas/applications-and-permits/environmental-permit-types-information/norm/>

# Other Applicable Statewide Rules



- Chapter 3.22 : Protection of Birds
- Chapter 3.30 : Memorandum of Understanding between the RRC and TCEQ
- Chapter 3.91 : Cleanup of Soil Contaminated by a Crude Oil Spill
- Chapter 3.98 : Standards for Management of Hazardous Oil and Gas Waste

## Surface Waste Management Manual Content

- General Information
- Permit Types & Information
- **Applicable Rules**
- Online Resources
- Contacts
- Other Manuals



# Permit Types



## Environmental Permit Types and Information

The Oil and Gas Division regulates oil and gas waste transportation, storage and disposal activities. Learn more about the various permitting programs and requirements.

Waste Haulers	Hydrostatic Test Discharges, Minor and Other Permits
Pits	Recycling
Discharges	Landfarms & Landtreatment
Reclamation Plants	Waste Separation Facilities
Commercial Facilities	Hazardous Wastes
NORM Waste	Renewal, Transfer & Amendment

### Surface Waste Management Manual Content

- General Information
- Permit Types & Information
- Applicable Rules
- Online Resources
- Contacts
- Other Manuals

### Current Environmental Permits

- Commercial Surface Disposal Facilities by List
- Commercial Surface Disposal Facilities by Map
- Oil and Gas Waste Haulers and Commercial Disposal Wells

- Above are the basic permit categories offered by the Environmental Permitting Section and are based on Texas Administrative Code (TAC) Title 16; Part 1; Chapters 3 & 4.

# Notification (Commercial Facilities)

---



- **Published notice must be in a newspaper of countywide** circulation of the county of the facility for **two consecutive weeks** and be in accordance with **Texas Natural Resources Code § 91.116** (<http://www.statutes.legis.state.tx.us/>) as outlined below.

## **The notice must include:**

- The date the application was filed;
- A description of the location of the site including the county in which the site is located, the name of the original survey and abstract number, and the direction and distance from the nearest municipality;
- The name of the owner of the site;
- The name of the applicant;
- The type of fluid or waste to be disposed of at the facility;
- The disposal method proposed; and
- The procedure for protesting the application.

# Notification Continued:

---



**The notice must be published:**

- **At least once each week for two consecutive weeks** with the first publication occurring not earlier than the date the application is filed and not later than the 30th day after the date on which the application is filed; and
- In a newspaper of general circulation in the county in which the proposed disposal would occur.

**Furnish a clipping of the published notice. It is recommended that the Form for Published Notice be used.** <http://www.rrc.texas.gov/media/2922/pubnotice.pdf>

**Submit a sworn affidavit from the newspaper giving the date on which the notice was published and stating that the newspaper is of general circulation in the pertinent county.**

**It is recommended that the Form for Affidavit of Publication be used.**

<http://www.rrc.texas.gov/media/2918/affidavit.pdf>

- Submit a copy of the signed lease agreement with the surface owner.
- Submit copies of the letters sent to the surface owner, offset surface owners, city clerk.

# Notification Summary



Send to Commission	Send to notified parties*
Copy of the signed lease agreement with the surface owner.	Copy of the application, including all attachments.
Provide a table of the offset landowners that includes the mailing address and the corresponding map tract.	A letter with the statement that "Any protest to the application should be filed with the Commission within 15 days of the date the application is filed with the Commission."
Copies of each letter sent to the notified parties that includes a date and a signature.	

\* Notified parties include surface owner, city clerk (if in city limits), and offset surface owners.

# Specific Topics to Be Covered

---



- Overview
- Reclamation Plants
- NORM
- Commercial Separation Facilities
- Stationery Treatment Facilities
- Financial Security

# Reclamation Plants (R-9)



## Commercial Reclamation Plants

Primary focus is to recover crude oil from tank bottoms and other hydrocarbon waste.

Actively separates solid and primarily liquid components of oil and gas waste to recover product for re-sale with off site management of non-recoverable or recyclable components.

Processes hydrocarbon bearing waste by enhanced mechanical, chemical, or thermal means (does not include gun barrel and settling tanks).

Existing Reclamation Plant Facilities need to submit a NORM survey along with their renewal/transfer/amendment requests.

# Reclamation Plants (R-9)



## Commercial Reclamation Plants

Primary focus is to recover crude oil from tank bottoms, pipe scale and other hydrocarbon waste.

Actively separates solid and liquid components of oil and gas waste to recover product for resale with off site disposal of non-recoverable or recyclable components.

Processes hydrocarbon bearing waste by enhanced mechanical, chemical, or thermal means. (does not include gun barrel and settling tanks).

Existing Reclamation Plant Facilities need to submit a NORM survey along with their renewal/transfer/amendment requests.

Includes pit hydrocarbons, skim oil, spillage, and leakage of crude oil or condensate from producing lease, pipelines, storage tanks, tank bottoms, tank scale and crude oil or condensate associated with pipeline ruptures and other spills.

# Reclamation Plant Application



- Letter of Request
- Form R-9
- Proof of Notice
  - Copy of application to the county and city clerks.
  - Published Notice (Once)
    - Proof of Published Notice
      - Signed Affidavit
      - Newspaper clipping
- Closure Cost Estimate.





# Reclamation Plant Application (Form R-9)



MONTHLY REPORT FOR RECLAIMING AND TREATING PLANTS			<b>RAILROAD COMMISSION OF TEXAS OIL AND GAS DIVISION</b>				FORM R-2 Rev. 12/77 Page 1				
OPERATOR _____			SERIAL NUMBER _____				FOR THE MONTH OF _____, 19____				
ADDRESS _____			STREET _____ CITY _____ STATE _____ ZIP _____				<input type="checkbox"/> CORRECTED REPORT				
STOCK ON HAND BEGINNING OF MONTH			RECEIPTS	TREATED MATERIALS			DELIVERIES		STOCK ON HAND END OF MONTH		
Net Oil and/or Other Material 1	Unprocessed Material 2	Total Stock 3	Actual Gross 4	Gross 5	Oil and/or Other Material Recovered 6	Loss or Waste 7	Net Oil 8	Other Material 9	Net Oil and/or Other Material 10	Unprocessed Material 11	Total Stock 12
<b>RECEIPTS</b>											
COMPANY RECEIVED FROM				LETTER OF AUTHORITY DATE	FORM T-5 NUMBER		CALCULATED BS & W		ACTUAL RECEIPTS		GROSS TOTAL

The “R-2” is a monthly report filed after a Reclamation Plant (R-9) permit is issued and is NOT a part of the Reclamation Plant permitting process.

TOTAL											
— FORMULAS —											
Columns 1 + 2 = 3 (Stock on Hand Beginning of Month)											
10 + 11 = 12 (Stock on Hand End of Month)											
6 + 7 = 5 (Gross Treated Material)											
2 + 4 - 5 = 11 (Unprocessed Material)											
1 + 6 - 8 - 9 = 10 (Net Oil and/or Other Material)											
3 + 4 - 5 + 6 - 8 - 9 = 12 (Basic Formula)											
METHOD OF DISPOSAL: Salt Water _____ Solids _____											
<b>CERTIFICATE</b>											
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.											
Signature _____											
Date _____ Title _____											
Name of Person (Type or Print) _____											
Telephone No. _____ Area Code _____ Number _____											

# Form R-9: Organization Information



1. OPERATOR NAME, exactly as shown on P-5, Organization Report	2. OPERATOR P-5 NO.
5. OPERATOR ADDRESS, including city, state, and zip code	

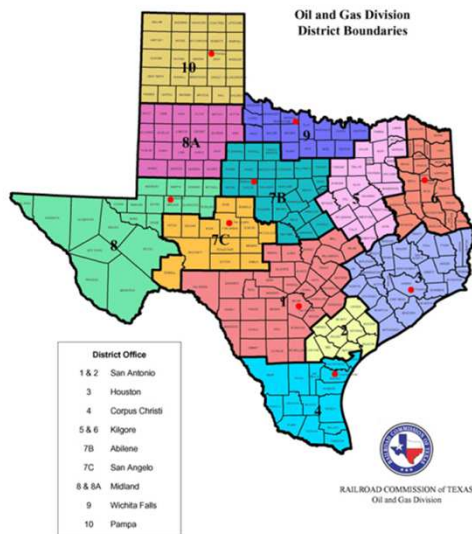
Must be filled out exactly as on  
the P-5

# Reclamation Plant Application: Form R-9



3. RRC DISTRICT NO.

4. COUNTY OF PLANT LOCATION



District office contact information by county and by map are provided:

<http://www.rrc.texas.gov/about-us/organization-activities/rrc-locations/#OilGasLocations>

<http://www.rrc.texas.gov/oil-gas/district-offices/>

# Topics to Be Covered

---




- Overview of Environmental Permits
- Reclamation Plants
- **NORM**
- Commercial Separation Facilities
- Stationary Treatment Facilities
- Financial Security

# What is NORM?

---



- Naturally Occurring Radioactive Material
- Wastes may contain materials such as uranium and thorium and their daughter products, radium-226 and radium-228. 
- The RRC has responsibility for regulating the disposal of NORM associated with Oil and Gas activities, identification of NORM and NORM contaminated equipment (TAC Title 16, Part 1, Chapter 4, Subchapter F, Rule §4.6).

# Texas Department of State Health Services (DSHS) NORM Jurisdiction

---



- Recycling of NORM.
- Processing or treatment of NORM that occurs at a location other than a disposal site.
- Decontamination of equipment and facilities *(excluding decontamination incidental to disposal and in-place mixing of NORM)*.
- Possession, use, transfer, transport, and/or storage of NORM.
- Worker protection standards.

# NORM: Contaminated Equipment



- NORM may exist as scale on the inner surface of equipment.
- NORM contaminated equipment is considered any equipment that at any access point exhibits a minimum radiation exposure level greater than 50  $\mu\text{R/hr}$  including background radiation level.
  - Example: If a scintillator reading for an empty tank is found to be greater than 50  $\mu\text{R/hr}$  (including background radiation level), then these tanks are considered NORM contaminated equipment.

Microroentgens per hour ( $\mu\text{R/hr}$ )--A measurement of exposure from x-ray and gamma ray radiation in air.

# NORM: Waste

---



- Oil and Gas NORM waste is any solid, liquid, or gaseous material or combination of materials (excluding source material, special nuclear material, and by-product material) that:
  - In its natural physical state spontaneously emits radiation;
  - Is discarded or unwanted;
  - Constitutes, is contained in, or has contaminated oil and gas waste;
  - Prior to treatment or processing that reduces the radioactivity concentration, exceeds exemption criteria specified in **25 TAC §289.259(d)**



# NORM: Waste



25 TAC §289.259(d) Oil and Gas NORM waste are exempt from the requirements of this chapter if the material contains, or is contaminated at, concentrations of:

- 30 picocuries per gram (pCi/gm) or less of radium-226 or radium-228 in:
  - soil, averaged over any 100 square meters ( $m^2$ ) and averaged over the first 15 centimeters (cm) of soil below the surface; or other media
- 150 pCi or less per gram of any other NORM radionuclide in:
  - soil, averaged over any 100  $m^2$  and averaged over the first 15 cm of soil below the surface, provided that these concentrations are not exceeded; or
  - other media, provided that these concentrations are not exceeded.

A measure of the radioactivity in one gram of a material. One picocurie is that quantity of radionuclide(s) that decays at the rate of  $3.7 \times 10^{-2}$  disintegrations per second.

# Common Examples of NORM Waste

---



- Empty equipment (pipes, tanks etc.) scintillating in excess of 50uR/hr including background NORM must be disposed of at an authorized Oil and Gas Waste NORM facility.
- Sludge that accumulates in oilfield pits and tanks that does not meet the exemption criteria in 25 TAC §289.259(d).

# When is NORM Testing Required for Permit Applications?

---



- NORM must be tested for at existing Reclamation Plants and Separation Facilities and Stationery Treatment Facilities as well as collecting pits.
- If the tanks have been used in oil and gas operations previously and have not been cleaned by a NORM certified crew, then they must be screened for NORM.

# NORM Contaminated Equipment

---



- 16 TAC §4.605 requires all NORM contaminated equipment used for production and disposal operations to be identified with the acronym **NORM**.
  - In order to comply with this rule, a NORM survey must be conducted using DSHS regulations, specified in 25 TAC 289.259(e).

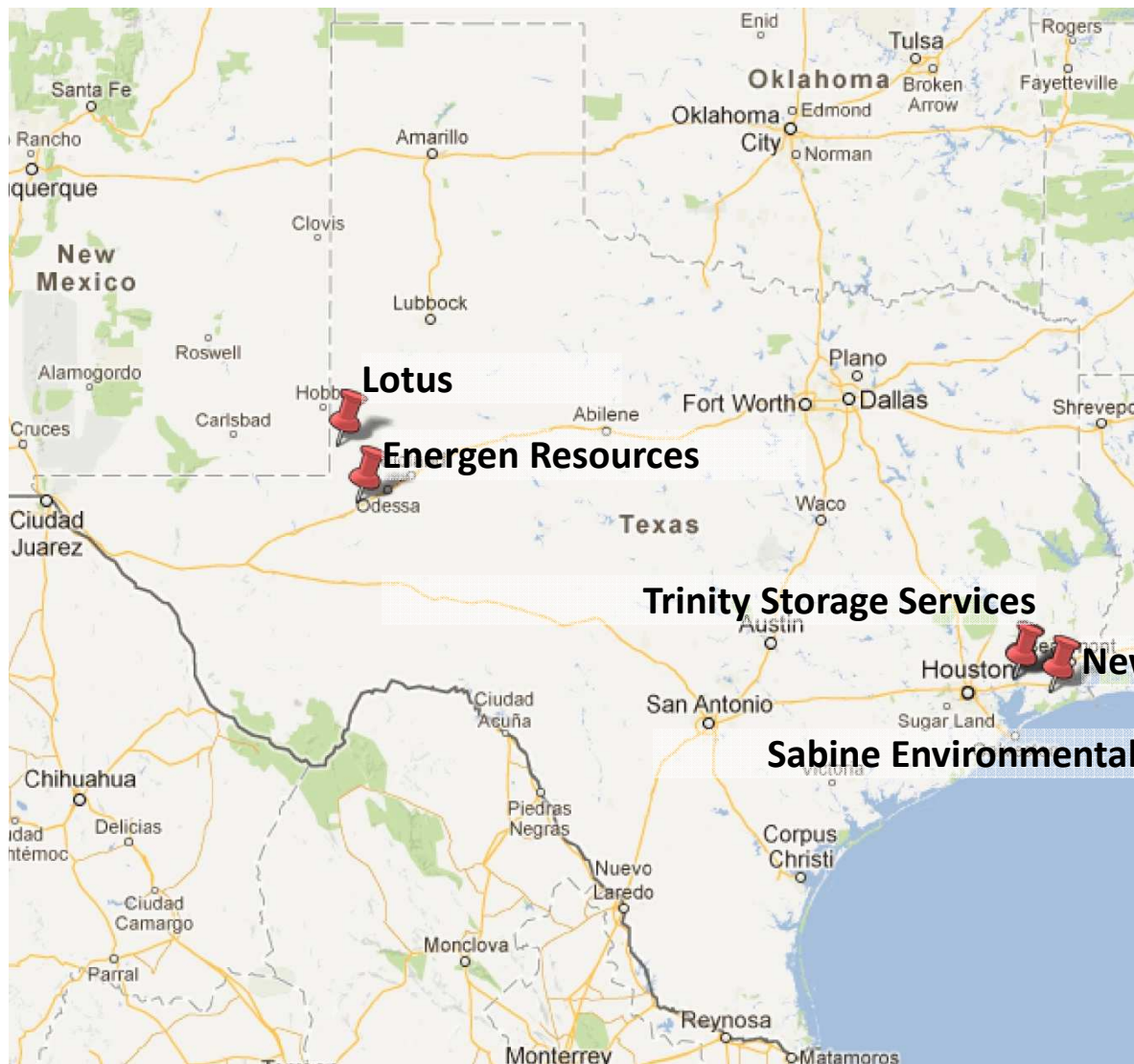
# NORM: Closure Cost Estimate

---



- Disposal of NORM contaminated equipment at a oil and gas NORM disposal facility must be accounted in the Closure Cost Estimate (CCE).
- Disposal of NORM waste (e.g. sludge) at a oil and gas NORM disposal facility must be accounted in the Closure Cost Estimate.

# Active Permitted Commercial NORM Disposal Facilities



# Topics to Be Covered

---



- Overview of Environmental Permits
- Reclamation Plants
- NORM
- Commercial Separation Facilities
- Stationary Treatment Facilities
- Financial Security

# Commercial Separation Facilities



- P-5



- Letter of Request  
(w/attachments)



- Contact TCEQ about Air Permitting



- Certification Statement



- Cost Closure Estimate





# Commercial Separation Facilities

---



## Commercial Separation Facilities

Primary focus is to separate solid and liquid components of oil and gas waste for off-site disposal.

Processes by mechanical, chemical or thermal means (may include gun barrel and settling tanks or other means of passive separation).

Existing separation facilities need to submit a NORM survey along with their renewal/transfer/amendment requests.

# Separation Facility: Site Information

---



- Location and site description.
- Plats, Cross-Sections and maps.
- Soil data.
  - 100 'Borehole for Lithology and Depth to Water
  - Soil data: USDA website  
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
  - Subsoil lithology data: Geologic Atlas of Texas  
<http://www.twdb.state.tx.us/groundwater/aquifer/GAT/index.asp>

# Separation Facility: Site Information



- Access Control

- Security Fencing and secured gates while unattended



- Storm water controls

- Spill Prevention Control and Counter measure (SPCC)
- Storm Water Pollution Prevention Plan (SW3P)



- Precipitation and Evaporation

- 24 Hour / 25 Year rain event or 120 % Total Capacity Guidelines



# Separation Facility: Waste Description

---



- Waste Process Flow
- Types and amounts of waste to be accepted
- Waste manifest records
- Maximum volume of waste to be stored onsite
- Inspection, maintenance and monitoring plans
- Site Security / Site Access



# Separation Facility: Closure

---



- Duration of operation



- Closure plans



- Closure Cost Estimate



# Topics to Be Covered

---



- Overview of Environmental Permits
- Reclamation Plants
- NORM
- Commercial Separation Facilities
- Stationary Treatment Facilities
- Financial Security

# Stationary Treatment Facilities (STF)

---



**May incorporate both Reclamation, Separation and Disposal activities. Often is permitted in association with a Class II Disposal well and associated pits.**

Primary focus is to accept Oil and Gas waste on a commercial basis, separate the solid and liquid components for on-site treatment, recovery, re-sale or recycling purposes and / or disposal.

Processes waste streams by mechanical, chemical and / or thermal means. Two week/typical notice requirements. Extensive Cost Closure Estimate (CCE). Existing STF facilities need to submit a NORM survey along with their renewal/transfer/amendment requests.

STF facilities often incorporate solid waste disposal pits and may also utilize recycling permits to produce road base material to be used on lease pads or lease roads.

# Recycling Permits



## Related Links

- [Chapter 4, Subchapter B](#)
- [Commercial Facilities](#)
- [Rule 8](#)

- Texas Administrative Code (TAC) Title 16; Part 1
- Chapter 4, Subchapter B
  - Division 1 outlines the definitions and general requirements for commercial recycling
- Solids Recycling – Reuse as roadbase, drilling pads, etc.
  - Division 2: On-Lease solid waste recycling
    - Limited to any on-lease location for one year
  - Division 3: Off-Lease solid waste recycling
    - Limited to any location for two years
  - Division 4: Stationary solid waste recycling
    - Permitted for one location for five years





# Recycling Permits, Continued

---



- Fluids Recycling: Reuse of wellbore fluids
  - Authorized if the fluid is:
    - Generated and recycled on a lease associated with drilling permit, disposal well, or injection well,
    - Used in the wellbore of an Oil & Gas well (frac fluid), and
    - Reused for legitimate commercial use if water is distilled
  - Division 5: Off-Lease fluid recycling
    - Limited to any location for two years
  - Division 6: Stationary fluid recycling
    - Permitted for one location for five years



# Topics to Be Covered

---



- Overview of Environmental Permits
- Reclamation Plants
- NORM
- Commercial Separation Facilities
- Stationary Treatment Facilities
- Financial Security

# Closure Cost Estimate

---



- The Cost Closure Estimate (CCE) is prepared both by the RRC and the applicant or their agent to provide technical services and labor and materials to characterize and dispose of any and all waste at the facility as well as to demolish, dispose and decontaminate any waste handling vessels, containers, tanks, or pits and raze and close the facility to the satisfaction of the Commission.



# Closure Cost Estimate Continued

---



The CCE is to be prepared by a Professional Engineer currently licensed by the state of Texas and includes:

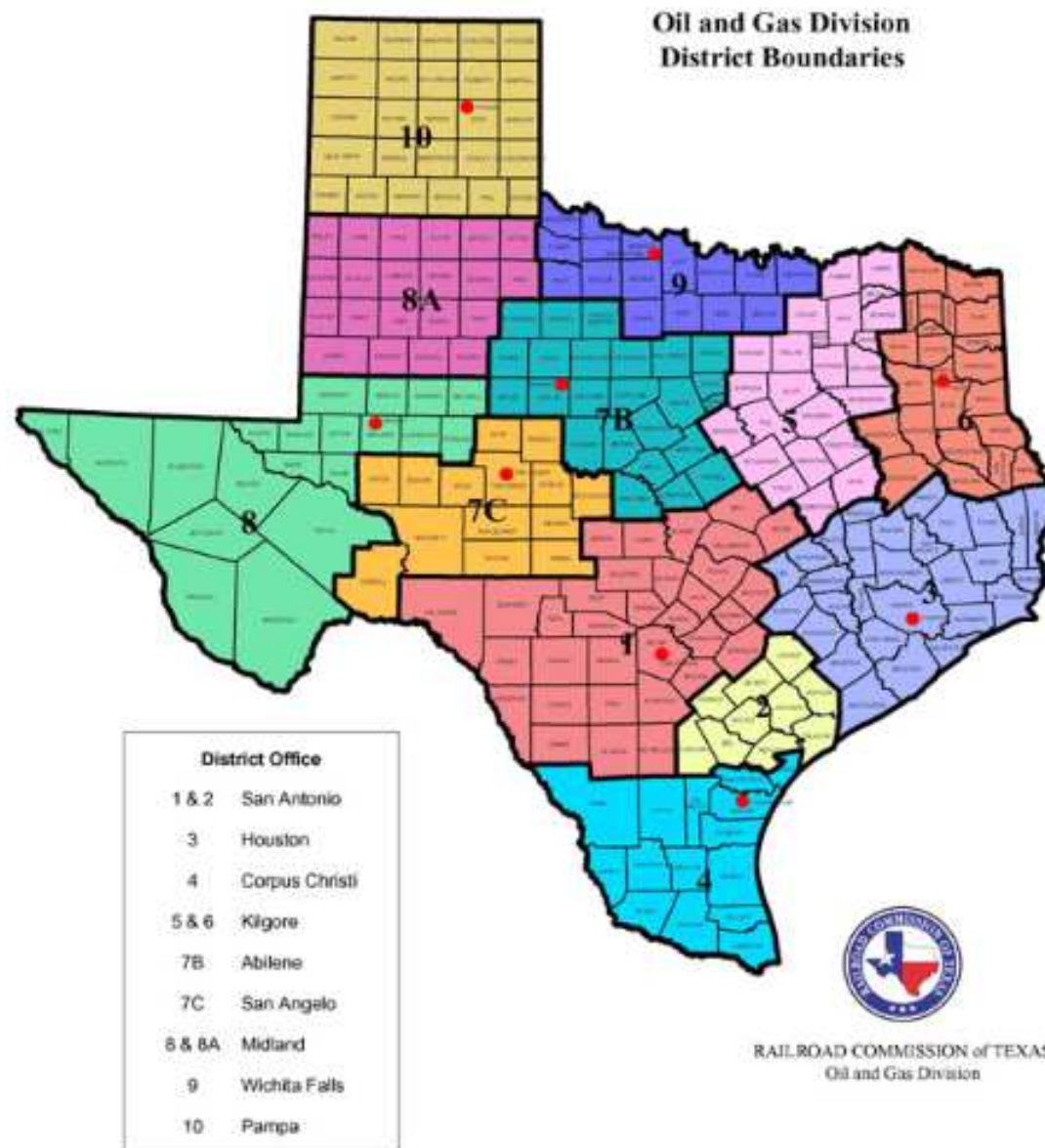
- ☐ Waste Characterization and disposal costs.
- ☐ Cleaning, welding and dismantling costs of tanks.
- ☐ Cannot assume steel or oil sale will offset cost.
- ☐ Tank pad disposal and / or demolition.

## **Financial Security is submitted in one of two forms:**

- Form CF-1: Commercial Facility Bond
- Form CF-2: Commercial Facility Letter of Credit

## Oil & Gas Division Boundaries Map

[View the Counties & Associated RRC District List](#)



# Questions? (Please ask... I enjoy talking)

---



## Environmental Permits and Support

Phone #: (512) 463-3840

**Grant Chambless, P.G.**

Phone #: (512) 463-4354

Grant.Chambless@RRC.Texas.Gov